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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,147	03/17/2004	Sethu K. Madhavan	GP-304612 (2760/165)	3953

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EXAMINER	
PERILLA, JASON M	

ART UNIT	PAPER NUMBER
2611	

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06/17/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/802,147	MADHAVAN ET AL.	
	Examiner	Art Unit	
	JASON M. PERILLA	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *20-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *20-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 20-32 are pending in the instant application.

Response to Arguments

2. The Applicant's remarks, filed May 27, 2008, have been fully considered, but they are not persuasive.

The Applicant's suggests that the prior art reference Preston et al (U.S. Pat. No. 7206305; "Preston") does not disclose the generation of a periodic data signal modulated with "periods of silence". The rejections below cite to Preston's column 6, lines 24-30, which state "[t]he preamble bits 73 and 79 **do not contain any of the digital data bits 29** from the data source [but] include a certain number of sacrificial bits that are not needed for detecting or encoding the MS packet 70." (emphasis added)

The Examiner maintains that Preston discloses the modulation of a data signal with "periods of silence". Contrasted with Preston's "digital data bits", the sacrificial bits do not contain any data. The Examiner is permitted to, reasonably, construe the claims broadly. Therefore, as broadly as claimed, a "period of silence" is considered to be a period of modulation without data which is clearly anticipated by Preston. Presently, the claims do not particularly limit a "period of silence" to be anything beyond a period without data communication. The Applicant argues that, because Preston's "sacrificial bits" are nonetheless converted into "tones", they can not represent "silent" periods. However, the "tones" of the sacrificial bits are nonetheless "silent" because they communicate no representative data and are specifically meant to be scaled, filtered, or distorted (col. 6, lines 29-31).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 20-25, 29, 30 and 32 are rejected under 35 U.S.C. § 102(e) as being anticipated by Preston et al (U.S. Pat. No. 7206305; "Preston" – previously cited).

Regarding claim 20, Preston discloses a method of communicating data over a voice channel of a wireless communication system (abstract), comprising the steps of: generating (fig. 4) a periodic data signal (fig. 6, i.e. f1 & f2 are each periodic) modulated with data (fig. 4, ref. 30; fig. 6, data bits "1" and "0") and periods of silence (col. 6, lines 24-30); and sending (fig. 2, ref. 19) the periodic data signal (fig. 2, ref. 26) as a voice communication through a vocoder (fig. 2, ref. 18) and over a voice channel (fig. 2, ref. 34) of a wireless communication system. Preston discloses a method of transmitting digital data using a cellular phone (fig. 2, ref. 14) commonly utilized for the transmission of audio voice signals. Preston explicitly discloses that "a problem arises when voice communication equipment, such as the vocoder, are used for transmitting digital data as a non-voice signal." (col. 1, lines 55-63). Specifically, the vocoder may recognize the data as noise and remove it (col. 1, lines 55-63). Therefore, Preston discloses careful encoding of the data by "controlling the amplitudes, time periods, and patterns of the

synthesized frequencies used to represent the binary bit values." (col. 5, lnes 23-33). Particularly, Preston discloses, as broadly as claimed, the inclusion of "periods of silence" or periods of non-data sacrificial bit transmission to prevent the vocoder from attenuating the transmission of wanted data (col. 6, lines 15-31).

Regarding claim 21, Preston discloses the limitations of claim 1 as applied above. Further, Preston discloses that the wireless communication system is a cellular network (fig.1).

Regarding claim 22, Preston discloses the limitations of claim 1 as applied above. Further, Preston discloses that the network transmission standard is CDMA (col. 4, line 54).

Regarding claim 23, Preston discloses the limitations of claim 1 as applied above. Further, Preston discloses generating the periodic data signal with a data sequence using frequency shift keying (fig. 6; col. 5, lines 45-50).

Regarding claim 24, Preston discloses the limitations of claim 1 as applied above. Further, Preston discloses that the duration of each of the periods of silence is within the range of about 25 to 1000 milliseconds. Preston discloses that each bit continues for a duration of 10 milliseconds (col. 5, lines 65-66). Furthermore, Preston discloses that the "period of silence" determined by the sacrificial bits is four bits long (fig. 5, "sacrificial bits"). Therefore, the period of silence is 40 milliseconds.

Regarding claim 25, Preston discloses the limitations of claim 20 as applied above. Further, Preston discloses receiving a first periodic data signal (fig. 4, ref. 30) and producing a second periodic data signal (fig. 4, ref. 69) by modulating the first

periodic data signal with the periods of silence determined by the packet formatter (fig. 4, ref. 62) as applied in claim 20 above.

Regarding claim 29, Preston discloses a method of communicating data over a voice channel of a wireless communication system (abstract), wherein both data and voice are transmitted at the same time (col. 1, lines 60-65) to a call center (fig. 1, ref. 36). Furthermore, Preston discloses the remaining limitations of the claim as applied to claims 20 and 21 above.

Regarding claim 30, Preston discloses the limitations of claim 29 as applied above. Further, Preston discloses the remaining limitations of the claim as applied to claims 20 and 21 above.

Regarding claim 32, Preston discloses the limitations of claim 29 as applied above. Further, Preston discloses that the network transmission standard is CDMA (col. 4, line 54).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 26-28 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Preston in view of Gardner et al (U.S. Pat. No. 7146174; "Gardner").

Regarding claim 26, Preston discloses the limitations of claim 25 as applied above. Preston does not explicitly disclose receiving a control signal, the control signal

supplying parameters for a length of the periods of silence and timing between the periods of silence; and producing the second periodic data signal by modulating the first periodic data signal based on the received control signal. However, the use of control signals is notoriously known in the art as evidenced by Gardner. Gardner discloses, in a strictly analogous field of art, using a microprocessor (fig. 13, ref. 122) to provide a rate control signal to vocoders (fig. 13, ref. 120) to control the maximum data rate of non-speech data or speech based upon required or available energy (col. 10, lines 50-65). Therefore, as understood by one having ordinary skill in the art, it would have been obvious at the time which the invention was made that the encoders and vocoders of Preston could take control signals from a microprocessor to determine rates of speech and data because it would permit changing the rate depending upon the available bandwidth for transmission. Furthermore, it is obvious that, when the data and speech rates are updates, the silent periods would be altered to accommodate the new rates. That is, the silent periods would be adjusted accordingly.

Regarding claim 27, Preston discloses the limitations of claim 20 as applied above. Furthermore, Preston in view of Gardner disclose the remaining limitations of the claim as applied to claim 26 above.

Regarding claim 28, Preston in view of Gardner disclose the limitations of claim 27 as applied above. Furthermore, Gardner discloses determining a response to transmitted information (fig. 11, refs. 62, 66 and 68). This received "response" is combined with the information to be transmitted for reverse link rate control (col. 9, lines 19-25). Therefore, it would have been obvious to one having ordinary skill in the art at

the time which the invention was made that received "response" or feedback information can be utilized to perform rate control in the invention of Preston as suggested by Gardner. Moreover, this feedback may appropriately be utilized to change the length of the silence periods as applied in claim 26.

7. Claim 31 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Preston.

Regarding claim 31, Preston discloses the limitations of claim 30 as applied above. Preston does not disclose that step (a) is performed prior to step (b). Rather, Preston discloses that adding the periodic time intervals is performed before frequency shift keying. However, the reversal of the steps is not a patentably distinct step and is within the abilities of one having ordinary skill in the art. The reversal of the steps is not suggested as providing a benefit or solving a particular problem. Furthermore, one skilled in the art would have expected the invention to work equally well in either mode of operation.

Allowable Subject Matter

8. No claims are allowed.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON M. PERILLA whose telephone number is (571)272-3055. The examiner can normally be reached on M-F 8-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh M. Fan can be reached on (571) 272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jason M Perilla/
Primary Examiner, Art Unit 2611
June 9, 2008

/jmp/